

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

- **Federal Agency Name:** National Environmental Satellite, Data, and Information Service (NESDIS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC)
- **Funding Opportunity Title:** Research in Satellite Data Assimilation for Numerical Weather, Climate, and Environmental Forecast Systems.
- **Announcement Type:** Initial Announcement
- **Catalog of Federal Domestic Assistance (CFDA) Number:** 11.440, Environmental Sciences, Applications, Data, and Education.
- **Dates:** Letters of Intent (LOI) must be received by NOAA/NESDIS no later than 5:00 p.m. Eastern Daylight Time, August 11, 2006, and full proposals must be received no later than 5:00 p.m. Eastern Daylight Time, October 2, 2006.
- **Application Submission:** Letters of Intent should be emailed to James.G.Yoe@noaa.gov or may be mailed or faxed to the JCSDA (see the For Further Information Contact). Applications shall be submitted through Grants.gov APPLY; a date and time receipt indication is included and will be the basis of determining the timeliness. If applicants do not have Internet access, the application can be mailed to: NOAA/NESDIS Joint Center for Satellite Data Assimilation, Attn: James G. Yoe, 5200 Auth Rd., Room 808, Camp Springs, MD 20746. Applicants who have not received a response to their letter of intent within four weeks should contact the appropriate Technical Point of Contact. We anticipate that review of full proposals will be completed by January 31, 2007, and funding is expected to begin June 1, 2007. June 1, 2007 is to be used as the proposed start date on proposals unless otherwise directed by the appropriate Technical Point of Contact. All proposals must be submitted in accordance with the guidelines below. Failure to heed these guidelines may result in proposals being ineligible for review.

Funding Opportunity Description: The NOAA/NASA/DOD Joint Center for Satellite Data Assimilation (JCSDA) announces the availability of Federal assistance for research in the area of Satellite Data Assimilation in Numerical Weather, Climate, and Environmental Forecast Systems. The goal of the JCSDA is to accelerate the use of observations from earth-orbiting satellites in operational numerical prediction models for the purpose of improving weather, ocean mesoscale, and other environmental forecasts, improving seasonal to interannual climate forecasts, and increasing the physical accuracy of climate reanalysis. The advanced instruments of current and planned NOAA, NASA, DOD, and international agency satellite missions will provide large volumes of data on atmospheric, oceanic, and land surface conditions with accuracies and spatial resolutions never before achieved. The JCSDA will strive to ensure that the Nation realizes the maximum benefit of its investment in space as part of an advanced global

observing system. Funded proposals will help accelerate the use of satellite data from both operational and experimental spacecraft in operational weather, ocean mesoscale, climate, and environmental prediction environments, improve community radiative transfer models and surface emissivity models, improve characterization of the error covariances related to forecast models, radiative transfer models and satellite observations, and advance data assimilation science.

FULL ANNOUNCEMENT

I. Funding Opportunity Description

A. Program Objective

The NOAA/NASA/DOD Joint Center for Satellite Data Assimilation (JCSDA) is a distributed center that engages units of NASA: Goddard Space Flight Center (GSFC) Earth-Sun Exploration Division; NOAA: NESDIS Center for Satellite Applications and Research (STAR) , National Weather Service (NWS) National Centers for Environmental Prediction (NCEP)/Environmental Modeling Center (EMC), and Office of Oceanic and Atmospheric Research (OAR); US Navy: Oceanographer of the Navy and the Naval Research Laboratory (NRL); and US Air Force Air Weather Agency. The Joint Center's goal is to accelerate the abilities of NOAA, DOD, and NASA to ingest and effectively use the large volumes of data from current satellite-based instruments and planned satellite missions over the next 10 years. JCSDA activities are divided into infrastructure development and proposal-driven scientific projects. Infrastructure activities will focus initially on the development and maintenance of a scientific backbone for the JCSDA, including a community-based radiative transfer model, a community-based surface emissivity model, and numerical prediction systems for performing assimilation experiments with real and simulated observations from new and future satellite instruments. The proposal-driven scientific projects are the primary mechanism for accelerating the transition of research and technological advances in remote sensing and data assimilation into the operational and product driven weather, ocean, climate, and environmental prediction systems.

This research is directed toward acceleration of the science of satellite data assimilation in numerical weather forecast models and in ocean and land surface models used for climate prediction and operational ocean applications. A primary measure of potential impact in this solicitation will be the acceleration of satellite data into NOAA, NASA, and DoD forecast systems, and the improvement of forecasts from those systems. Research supporting development of the radiative transfer models used in assimilation applications should be in fast radiative transfer codes such as those used in real-time NWP. Broader research topics in data assimilation, data impact, and improvement of radiative schemes for data assimilation applications that do not have the potential for direct application to real-time NWP or other operational environmental prediction systems are of less interest for this announcement.

B. Program Priorities

This announcement calls for proposals for scientific projects in the areas described below. If investigators are uncertain about the applicability of research topics to the priorities of the JCSDA, they should address questions to the appropriate technical point of contact listed below prior to submitting their proposals. These questions and corresponding answers will be posted on a Frequently Asked Questions page on the JCSDA website.

1. Radiative Transfer Models (Technical Point of Contact: Fuzhong Weng, 301-763-8136; Fuzhong.Weng@noaa.gov). Precise and fast means of calculating observed satellite radiances and their parametric derivatives for specific bands are essential for satellite data assimilation. Algorithms are sought for both microwave and infrared frequency bands. The proposed research should advance the state-of-the-art leading to improved assimilation of satellite observations. Proposals are encouraged to focus on: fundamental issues in atmospheric absorption by gases and/or absorption and scattering by aerosols, cloud particles, and/or precipitating hydrometeors; and innovative radiative transfer solutions applicable to direct radiance assimilation. In the first case, an emphasis is placed on improved dielectric, spectral line, and/or continuum models and size/shape distributions that will decrease current errors in the calculation of satellite observed radiances. In the latter case, the emphasis is on fundamental improvements to existing radiative transfer models which extend the capability to assimilate IR and/or microwave radiances within cloudy and/or precipitating regions. For example, proposals could focus on:
 - a. Fast models for computing continuum and spectral line gas absorption, including trace gases for all relevant satellite instruments;
 - b. Visible, infrared, and microwave emission and reflection models;
 - c. Fast models for calculating the optical parameters for aerosol and hydrometeor absorption and/or scattering;
 - d. Performance assessments of the JCSDA Community Radiative Transfer Model under various atmospheric and surface conditions;
 - e. Observation System Simulation Experiments (OSSEs) for high-resolution infrared sounders (e.g. CrIS, IASI, GOES-R HES) designed to explore various trade-spaces for instrument performance, (e.g. considering the spectral, noise, and instrument field-of-view characteristics).

This program priority supports NOAA's Weather and Water mission goal.

2. Advanced Instruments (Technical Point of Contact: Lars Peter Riishojgaard;

301-614-6245; larspr@gsfc.nasa.gov). Advanced satellite instruments (e.g. METOP IASI/AMSU, DMSP SSMIS, NPP and NPOESS sensors, GOES-R, Global Precipitation Monitor) will become available over the course of the next decade. Maximizing the impact of these observations on numerical weather prediction and data assimilation systems is a high priority of the JCSDA. Developments for advanced instruments may also impact the use of currently available data. Examples of appropriate research areas include:

- a. Data selection and thinning methods aimed at reducing the number of horizontal locations for which data are assimilated while preserving as much information as possible;
- b. Channel selection and/or data compression methods aimed at reducing the number of data points reported per profile with a minimum loss of information;
- c. Observation error correlations: Innovative approaches to estimating, modeling, and accounting for the spatially correlated observation errors typical for high density satellite data;
- d. Innovative uses of advanced satellite products (e.g. MODIS/GOES winds) from sounders and imagers;
- e. Studies contributing to the assessment of the potential impact of future advanced satellite instruments on weather and environmental forecast skill.

The priority supports NOAA's Weather and Water mission goal.

3. Clouds and Precipitation (Technical Point of Contact: John Derber, 301-763-8000 x7740; John.Derber@noaa.gov). The proper inclusion of direct or indirect (through products) cloud and precipitation observations is one of the most difficult problems in data assimilation. However, the benefits of incorporating this data are expected to be significant for directly enhancing the predictive skill of moist components (e.g., clouds, precipitation, convection, icing, etc.) of the short and long-term forecasts and indirectly enhancing all other components of the models.

Since techniques for assimilating clouds and precipitation are less well developed than for other observables, the scope of work here may extend beyond direct use of satellite data. Thus, appropriate development areas may include error statistics, bias correction and quality control, as well as development of appropriate moist balances, new techniques for handling non-linearities in the balance equations or forward models, and modification of

model physical parameterizations to increase compatibility with the observations and to eliminate inappropriate discontinuities. For example, proposals could focus on:

- a. Assimilation of radiances in cloudy and precipitating areas through use of advanced radiative transfer models.
- b. Specification of observation error covariance statistics for specific instruments and forward models under a variety of cloud and precipitation conditions;
- c. Definition of background error covariance statistics for various cloud mixing ratios predicted by cloud prognostic schemes and cumulus parameterization schemes.

This priority supports NOAA's Weather and Water mission goal.

4. Ocean Data Assimilation for Prediction on Daily to Seasonal Time Scales (Technical Point of Contact: Michele Rienecker, 301-614-5642; Michele.Rienecker@nasa.gov). Satellite products estimated from various sensors are important for improving the initial conditions for ocean mesoscale models and couple seasonal climate forecasts. Satellite products, with their high temporal and spatial resolution are also important for validating ocean analyses and forecasts. The challenges confronting data assimilation for ocean applications stem from the paucity of observational data to constrain the models. Proposals should focus on one or more of the following areas of investigation:

- a. Estimation of observational error characteristics for satellite data used in ocean state estimation (surface altimetry, microwave and IR sea-surface temperature (SST) retrievals), specifically, covariances, biases, correlated errors, and errors of representativeness;
- b. Assimilating satellite data products to improve forecasts of the ocean mesoscale or seasonal climate anomalies;
- c. Observing system experiments to help define the requirements for remotely sensed surface salinity and accuracy requirements for improved sea surface temperature;
- d. Validation of ocean assimilation products and ocean forecasts with satellite products;

This priority supports NOAA's Climate mission goal.

5. Land Surface (Technical Point of Contact: Dan Tarpley; 301-763-8042 X117; Dan.Tarpley@noaa.gov). Earth surface emissivity is a critical lower boundary condition for the successful assimilation of satellite observations into atmospheric background states. It is widely acknowledged that modeling surface emissivity is notably more difficult over landmass and sea-ice regions than over open sea. Successful forward modeling of land (or sea-ice) surface emissivity is in turn critically dependent on successful modeling and specification of land surface (and sea ice) properties, such as surface/subsurface temperature, surface/subsurface moisture (both frozen and liquid), snowpack state and vegetation state. These land and sea-ice surface states are very important not only to surface emissivity, but also to modeling the proper land-atmosphere interactions in NWP and climate models (i.e. surface sensible and latent heat fluxes, land surface temperature and upward longwave radiation, and surface albedo). Hence the assimilation of satellite data to improve the background model's land states and land characteristics is very important in its own right. Presently, satellite data contain much information about the land surface that is not yet effectively utilized in NWP and climate models. One reason is the difficulty in deriving physical quantities that can be used in the physics of land surface models from common remote sensing quantities. Examples are: derivation of leaf area index or green vegetation fraction from NDVI or basic window channel reflectances; the estimation of snow fraction and snow albedo from satellite brightness measurements. Another difficulty is the assimilation of satellite window band observations into complex surface models. Forward models and adjoint formulations are very difficult in the window regions of the spectrum. Thus, proposals could focus on:
- a. Timely (for operational weather prediction) retrieval from satellite data of land surface properties including surface albedo, surface roughness, and vegetation properties, such as vegetation type and the seasonal cycle of green vegetation fraction and leaf area index;
 - b. Development and demonstration of data assimilation into the prognostic states (soil moisture, snowpack, surface temperature, canopy water) of the land component of the NWP background model via variational assimilation through adjoint models or assimilation through ensemble Kalman filter models, including treatments for background error covariances;
 - c. Development of forward land surface emissivity models, for both thermal and microwave channels (especially over snowpack and non-sparse vegetation), and assessment of land surface emissivity models in the framework of the JCSDA community-based radiative transfer model and community-based surface emissivity model.

This priority supports NOAA's Weather and Water mission goal.

6. Aerosol and Trace Gas Data Assimilation (Technical Point of Contact: Nancy Baker; 831-656-4779; baker@nrlmry.navy.mil). The assimilation of aerosols, major atmospheric constituents (including ozone) and trace gases throughout the atmospheric column is an area of increasing priority. Satellite observations can provide estimates of aerosol optical depth which is directly related to atmospheric visibility and air quality. The observations at ultraviolet wavelengths (e.g. NOAA SBUV, EOS-Aura OMI) are employed to estimate the total ozone and have been included in the global forecast system to improve solar heating estimates. Research is needed on in direct or indirect (through products) use of satellite-derived aerosol and trace gas information to improve forecast of visibility, ozone index and air quality. Thus, proposals should focus on:

- a. Assessing and evaluating new air quality products (e.g. ozone and particulate profiles) from advanced satellite instruments for numerical weather prediction (NWP) applications;
- b. Assessing the capability of hyperspectral infrared instruments (e.g., AIRS) to detect CO₂ variations;
- c. Assimilating aerosol and ozone products to improve forecasts of visibility and health index with the state-of-the-art air quality forecast model including chemical and biological process;
- d. Use of atmospheric constituents as tracers to improve the assimilation of other variables (e.g. using ozone as a tracer to improve winds).

This priority supports NOAA's Weather and Water mission goal.

C. Statutory Authority

Statutory authorities for this program are provided under 15 U.S.C. 313, 49 U.S.C. 44720(b); 15 U.S.C. 2901 et. seq.

II. Award Information

A. Funding Availability for FY 2007

Total funding available for this Notice is anticipated to be approximately \$600,000. Individual annual awards in the form of grants or cooperative agreements are expected to range from \$50,000 to \$150,000, although greater amounts may be awarded. It is anticipated that 4-6

awards will be made.

B. Project/Award Period

Project duration will be 1-3 years, with funding for multi-year projects contingent on satisfactory progress in prior years and funding availability. June 1, 2007 is to be used as the proposed start date on proposals unless otherwise directed by the NOAA program officer. There is no guarantee that sufficient funds will be available to make awards for all projects, nor that all research areas of interest will be supported.

C. Type of Funding Instrument

Proposals selected for funding will be funded through a grant or cooperative agreement depending upon the amount of collaboration, participation, or involvement by NOAA in the management of the project. Examples of substantial involvement may include but are not limited to, proposals for collaboration between NOAA scientists and a recipient scientist. Funding for contractual arrangements for services or products for delivery to NOAA is not available under this notice.

III. Eligibility Information

A. Eligible Applicants

Eligible applicants are institutions of higher education, other nonprofit organizations, international organizations, federal agencies, state, local, and Indian tribal governments.

B. Cost Sharing or Matching Requirement

No cost sharing nor matching is required under this program

C. Other

Not applicable

IV. Application and Submission Information

The standard application package is available at <http://www.grants.gov>. For applicants without internet access, an application package may be received by contacting Patty Mayo, NOAA/NESDIS, 5200 Auth Rd., Rm 701, Camp Springs, MD 20746, Phone: 301-763-8127, ext. 107, email: Patty.Mayo@noaa.gov.

A. Letters of Intent (LOI) Instructions

The purpose of the LOI process is to provide information to potential applicants on the relevance of their proposed project to the JCSDA and the likelihood of it being funded in

advance of preparing a full proposal. Full proposals will be encouraged only for LOIs deemed relevant. Therefore, while not a requirement, it is in the best interest of the applicants and their Institutions to submit an LOI. The LOI is to provide a concise description of the proposed work and its relevance to the targeted priority project area. The LOI must include the components listed below. If these components are not included, the LOI risks a delayed response and may not be considered by the program reviewers.

1. Investigators must identify the priority project area that is being targeted in the LOI;
2. Investigators must specify a tentative project title in the LOI;
3. LOIs must include the name and institution of all principal investigator(s), and must specify which individual is the Lead principal investigator;
4. LOIs must be no more than two pages in length, single-space 12 point font, and must include a statement of the problem, brief summary of work to be completed, methodology to be used, and approximate cost of the project. Facsimile, electronic mail, and hard copy are acceptable for LOIs ;
5. LOIs must be received by James G. Yoe, Deputy Director, JCSDA, NOAA/NESDIS, 5200 Auth Rd., Rm 808, Camp Springs, MD 20746, no later than 5:00 p.m. Eastern Daylight Savings Time August 11, 2006. LOIs can be emailed to James.G.Yoe@noaa.gov , or faxed to 301 763 8149

A panel of JCSDA Technical Liaisons will review each LOI to determine whether the LOI is responsive to the program goals as advertised in this notice. An LOI response (e-mail or letter) will be sent back to the investigator encouraging or discouraging a full proposal by September 1, 2006. The final decision to submit a full proposal will be made by the investigator.

B. Full Proposal Application

The proposals must include the required elements identified below and total no more than **10 pages in double-spaced, 12-point font format**. The signed title page, abstract, detailed budget, investigator(s) vitae, any appendices, and grant application forms are not included in the 10-page limit. Multi-year proposals up to a maximum of 3 years will be considered; however, funding beyond the first year will be dependent upon satisfactory performance and the availability of funds. June 1, 2007 is to be used as the proposed start date on proposals unless otherwise directed by the NOAA Program Officer. All proposals must include the following elements:

1. **Title Page**. This page shall provide the project title, the name (s) of the lead Principal Investigator (PI), Co-investigator name(s) if any, the respective affiliations, complete addresses, telephone, fax, and email information. The title page is to present the total amount of Federal funds requested for each budget period. The title page shall also identify the specific research area of interest (the one most relevant area from those listed in the Program Priorities in

this announcement) and clearly identify that the proposal is in response to this announcement.

2. **Abstract Page:** An abstract must be included and must contain an introduction to the problem, rationale behind the proposal, and a brief summary of work to be completed. The abstract must appear on a separate page (not part of the 10 page count), headed with the proposal title, Institution(s), investigator(s), total proposed cost and budget period.

3. **Results from Prior Research.** The results of related projects supported by NOAA and other agencies are to be described, including their relation to the currently proposed work. Reference to each prior research award is to include the title, agency, award number, PIs, period of award and total award. The section is to be a brief summary and must not exceed two pages total.

4. **Project Description.** The proposed project must be completely described, including identification of the problem, scientific objectives, proposed methodology, and relevance to the program priorities given earlier in this announcement. The maturity of the project in terms of readiness for transition to an operational system should be described. Multi-year applications must include a program description for each year of the proposed activity.

5. **Budget and Proposed Budget Justification.** The proposal must include total and annual budgets (for multi-year applications) corresponding with the descriptions provided in the project description. A detailed budget must be included in an appendix to the proposal including a narrative providing the basis and justification of the proposed budget. Joint proposals must include detailed budgets for each institution.

6. **Vitae.** Abbreviated curriculum vitae are to be included with each proposal. Reference lists should be limited to all publications in the last 3 years with up to five other relevant papers.

7. **Current and Pending Support.** For each investigator, submit a list which includes: project title, supporting agency with grant number, investigator months, dollar value, and duration. Requested values are to be listed for pending support. (Required but not part of the 10-page count.)

C. **Submission Dates and Times**

Letters of Intent must be received by James G. Yoe, Deputy Director, JCSDA, NOAA/NESIS, 5200 Auth Rd., Rm 808, Camp Springs, MD 20746, no later than 5:00 p.m. Eastern Daylight Savings Time August 11, 2006. LOIs can be faxed to 301 763 8149, attention James G. Yoe, or emailed to James.G.Yoe@noaa.gov. For LOIs received late, timely response from the JCSDA may not be possible.

Full proposals must be received no later than 5 p.m. Eastern Daylight Time, October 2, 2006. For proposals submitted through Grants.gov, a date and time receipt indication is included and will be the basis of determining timeliness. Hard copy proposals will be date and time stamped when they are received in the program office. Proposals received after the

deadline will be returned to the sender without further consideration. For proposals submitted by email the date and time stamp of receipt will be used to determine timeliness.

D. Intergovernmental Review

Applications under this program are not subject to Executive Order 12372, “Intergovernmental Review of Federal Programs.”

E. Funding Restrictions

Funding beyond the first year will be dependent upon satisfactory performance and the continued availability of funds.

F. Other Submission Requirements

LOIs may be emailed to James.G.Yoe@noaa.gov. Hard copies may be sent to James G. Yoe, Deputy Director JCSDA, NOAA/NESDIS, 5200 Auth Rd., Rm 808, Camp Springs, MD 20746. LOIs may be faxed to 301 763 8149 and directed to James G. Yoe, Deputy Director.

Full proposals from non-Federal agencies should be submitted through www.grants.gov. For those non-federal agencies organizations without internet access, proposals may be sent to James G. Yoe, Deputy Director JCSDA, NOAA/NESDIS, 5200 Auth Rd., Rm 808, Camp Springs, MD 20746. Full proposals from federal agencies should be submitted by email to James.G.Yoe@noaa.gov.

V. Application Review Information

A. Evaluation Criteria

The evaluation criteria and weighting of the criteria are as follows:

1. **Importance/Relevance and Applicability of Proposal to the Program Goals (38 points):** This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. For the Satellite Data Assimilation competition this includes:
 - a. Will the proposed work advance the science of assimilating satellite data in environmental forecast models?
 - b. Will the proposed project make a significant contribution to the high priority research and technical areas listed above?
 - c. Does the proposed work have the potential to significantly advance the use of satellite observations in numerical weather, ocean, and climate prediction models, or other operational environmental models used by one of the JCSDA partners?

- d. Does the proposed work include an effective mechanism by which the project's progress can be evaluated?
 - e. Does the proposed work demonstrate potential for successful transition from research to operations?
 - f. How mature is the proposed work in terms of its readiness for transition to operations?
2. **Technical and Scientific Merit (35 points):** This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. For the Satellite Data Assimilation competition, this includes:
- a. Is the approach technically sound?
 - b. Does the proposed project build on existing knowledge?
 - c. Is the approach innovative?
3. **Overall Qualifications of Applicants (15 points):** This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. For the Satellite Data Assimilation competition this includes:
- a. Are the proposers capable of conducting a project of the scope and scale proposed (i.e., scientific, professional, facility, and administrative resources/capabilities)?
 - b. Are appropriate partnerships going to be employed to achieve the highest quality content and maximal efficiency?
4. **Project Costs (10 points):** This criterion evaluates the budget to determine if it is realistic and commensurate with the projects needs and time-frame. For the Satellite Data Assimilation competition this includes:
- a. Is the budget realistic and commensurate with the project needs?
 - b. Does the budget narrative justify the proposed expenditures?
5. **Outreach and Education (2 points):** This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. For the

Satellite Data Assimilation competition this includes:

How will the proposed research provide a focused and effective education and outreach strategy regarding NOAA's mission in environmental prediction?

B. Review and Selection Process

An initial administrative review/screening is conducted to determine compliance with requirements/completeness. All proposals will be evaluated and individually ranked in accordance with the assigned weights of the above evaluation criteria by at least 3 independent peer reviewers. These reviewers may include both Federal and non-Federal individuals. The merit reviewers' ratings are used to produce a rank order of the proposals. The Selecting Official shall award in the rank order unless the proposal is justified to be selected out of rank order based upon one or more of the selection factors provided below. The Program Official and/or Selecting Official may negotiate the funding level of the proposal. The Selecting Official makes final recommendations for award to the NOAA Grants Officer who is authorized to obligate the funds and execute the award.

C. Selection Factors

The merit review ratings shall provide a rank order to the Selecting Official for final funding recommendations. The Selecting Official shall award in the rank order unless the proposal is justified to be selected out of rank order based on one or more of the following factors:

1. Availability of funding
2. Balance and distribution of funds
 - a. By research area
 - b. By project type
 - c. By type of institutions
 - d. By type of partners
 - e. Geographically
3. Duplication of other projects funded or considered for funding by NOAA/federal agencies.
4. Program priorities and policy factors.
5. Applicant's prior award performance.
6. Partnerships with/Participation of targeted groups.
7. Adequacy of information necessary for NOAA staff to make a National

Environmental Policy Act (NEPA) determination and draft necessary documentation before recommendations for funding are made to the NOAA Grants Officer.

D. Anticipated Announcement and Award Dates

Subject to the availability of funds, review of proposals will occur during the fall and early winter of 2006, and funding is expected to begin during June of 2007 for most approved projects. June 1, 2007, is to be used as the proposed start date on proposals, unless otherwise directed by the NOAA Program Officer.

VI. Award Administration Information

A. Award Notices

Successful applicants will receive notification that the application has been recommended for funding to the NOAA Grants Management Division. This notification is not an authorization to begin performance of the project. Official notification of funding, signed by the NOAA Grants Officer, is the authorizing document that allows the project to begin. Notification will be issued to the Authorizing Official and the Principle Investigator of the project either electronically or in hard copy. Unsuccessful applicants will be notified that their proposal was not selected for recommendation. Copies of unsuccessful applications on file in the Program Office will be destroyed or deleted.

B. Administrative and National Policy Requirements

1. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements - Administrative and national policy requirements for all Department of Commerce awards are contained in the Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2004 (69 FR 78389). A copy of the notice may be obtained at <http://www.gpoaccess.gov/fr/search.html>.
2. Limitation of Liability – In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs if these programs fail to receive funding or are cancelled because of other agency priorities. Publication of this announcement does not oblige NOAA to award any specific project or to obligate any available funds.
3. National Environmental Policy Act (NEPA): NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities. Detailed information on NOAA compliance with NEPA

can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, including our NOAA Administrative Order 216-6 for NEPA, http://www.nepa.noaa.gov/NAO216_6_TOC.pdf, and the Council on Environmental Quality implementation regulations, http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems). In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting of an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure to do so shall be grounds for not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable NOAA to make an assessment on any impacts that a project may have on the environment.

C. Reporting

Award recipients will be required to submit financial and performance (technical) reports. These reports are to be submitted electronically via NOAA's Grants On-line system unless the recipient does not have Internet access, in which case hard copy submissions will be accepted. All financial reports shall be submitted semi-annual in triplicate (one original and two copies) to the NOAA Grants Officer. Performance reports must be submitted on a semi-annual basis to the NOAA Program Officer (Dr. James G. Yoe) via NOAA's Grants On-line system.

VII. Agency Contact(s)

Administrative questions: Patty Mayo, NOAA/NESDIS, 5200 Auth Road, Room 701, Camp Springs, Maryland 20746, or by phone at 301-763-8127, ext. 107, fax: 301-763- 8108, or e-mail: patty.mayo@noaa.gov. **Technical questions:** James Yoe, JCSDA, 5200 Auth Road, Room 808, Camp Springs, Maryland 20746, or by phone at 301-763-8172 ext.186, fax to 301-763-8149, or via email: james.g.yoe@noaa.gov.

VIII. Other Information: To use Grants.gov, applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number and be registered in the Central Contractor Registry (CCR). Allow a minimum of five days to complete the CCR registration. [Note: Your organization's Employer Identification Number (EIN) will be needed on the application form.]

Applicants are strongly encouraged not to wait until the application deadline date to begin the application process through Grants.gov.